



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

December 22, 2004

**Addendum No. 1**

RE: Contract ID: C201302  
TIP Number: B-3851  
Guilford County  
Project Description: Bridge 21 over US 29 on SR 3163 in Greenboro

**January 20, 2005 Letting**

To Whom It May Concern:

Reference is made to the Request for Proposal recently furnished to you on the above project. The following revisions have been made to the Request for Proposal:

On Page 32, the General section has been revised. Please void Page No. 32 in your proposal and staple the revised Page No. 32 thereto.

On Pages 42 and 43, the Roadway Design Scope of Work has been revised. Please void Page No.'s 42 and 43 in your proposal and staple the revised Page No.'s 42 and 43 thereto.

On Page 46, the Pavement Design Scope of Work has been revised. Please void Page No. 46 in your proposal and staple the revised Page No. 46 thereto.

On Pages 76 through 82, the Signing Scope of Work has been revised. Please void Page No.'s 76, through 82 in your proposal and staple the revised Page No.'s 76, through 82 thereto. Note that Pages 81 and 82 are intentionally left blank.

On Page 87, the Utilities Coordination Unit Design Scope of Work has been revised. Please void Page No. 87 in your proposal and staple the revised Page No. 87 thereto.

Sincerely,

A handwritten signature in black ink, appearing to read "R.A. Garriss", written over a horizontal line.

R.A. Garriss, P.E.  
Contract Officer

c: Mr. Len Sanderson, PE  
Mr. Steve Varnedoe, PE  
Ms. Deborah Barbour, PE  
Mr. Steve Dewitt, PE (with attachment)  
Mr. Ellis Powell, PE (with attachment)  
Mr. Victor Barbour, PE (with attachment)  
Mr. Mike Mills, PE (with attachment)  
Mr. Art McMillan, PE  
Mr. Rodger Rochelle, PE (with attachment)  
Ms. Felix Davila (FHWA) (with attachment)  
Mr. Jay Bennett, PE  
Mr. Scott Blevins, PE (with attachment)  
Mr. Andy Gay, PE (with attachment)  
Mr. Ron Davenport, PE (with attachment)  
Ms. Marsha Sample (with attachment)  
Mr. Mitch Hendee, PE (with attachment)  
Mr. Shannon Lasater, PE (with attachment)  
Mr. Chris Smitherman, EIT (with attachment)  
Mr. Stuart Bourne, PE (with attachment)  
Ms. Teresa Bruton, PE (with attachment)  
Mr. Njorge W. Wainaina, PE (with attachment)  
Mr. Barney Blackburn, PE (with attachment)  
Mr. Ayman Alqudwah, PE (with attachment)  
Mr. Marshall Clawson, PE (with attachment)  
Mr. Neal Strickland (with attachment)  
Mr. Don Chen, PE (with attachment)  
Mr. Richy Narron (with attachment)  
Mr. Greg Perfetti, PE (with attachment)  
Mr. Greg Smith, PE (with attachment)  
Mr. Tim Williams, PE (with attachment)  
Technical Review Committee Members (with attachment)  
File (with attachment)

Department's ethics policy. Failure to comply with the ethics policy will result in the employee's removal from the project and may result in removal of the Company from the Department's listing of Registered Qualified Engineering Firms.

### **APPROVAL OF PERSONNEL**

The Department will have the right to approve or reject any personnel, assigned to a project by the Design Build Team.

The Design Build Team or any subcontractor for the Design Build Team which are employed to provide services for this project shall not discuss employment opportunities or engage the services of any person or persons, now in the employment of the State during the time of this contract, without written consent of the State.

In the event of engagement, the Design Build Team or their subcontractors shall restrict such person or persons from working on any of the Design Build Team's contracted projects in which the person or persons were "formerly involved" while employed by the State. The restriction period shall be for the duration of the contracted project with which the person was involved. *Former Involvement* shall be defined as active participation in any of the following activities:

- Drafting the contract
- Defining the scope of the contract
- Selection of the Design Build Team
- Negotiation of the cost of the contract (including calculating manhours or fees); and
- Administration of the contract.

An exception to these terms may be granted when recommended by the Secretary and approved by the Board of Transportation.

Failure to comply with the terms stated above in this section shall be grounds for termination of this contract and/or not being considered for selection of work on future contracts for a period of one year.

### **SUBMITTAL OF PROPOSALS**

#### **GENERAL**

Technical and Price Proposals will be accepted until **4:00 P.M. Local Time on Monday January 10, 2005**, at the office of the Contract Officer, 1020 Birch Ridge Drive, Century Center Complex Bldg. B, Raleigh, NC. No Proposals will be accepted after the time specified.

Proposals shall be submitted in 2 separate, sealed parcels containing the Technical Proposal in one and the Price Proposal in the other parcel.

- The approach roadway east of the bridge will be a 64-foot curb and gutter section. This width shall include two 12-foot lanes in each direction, a 12-foot center turn lane to accommodate left turns at the ramp junctions with 2 ½ -foot curb and gutter.
- Ten-foot wide berm with five-foot sidewalks shall be provided on both sides of East Market Street.
- The replacement structure shall be on an alignment shifted north of the existing structure and consist of a 64-foot clear roadway width with 5.5-foot sidewalks on both sides. The clear roadway width shall include two 12-foot travel lanes in each direction, a 12-foot striped area and 2-foot offsets to the curbs. Traffic shall be maintained on-site, at all times, during construction.
- The proposed design shall adhere to a 40-mph design speed for rolling urban principal arterial facilities. Include all other proposed design criteria in the Technical Proposal. The Department must approve all design criteria.
- The Design-Build Team shall also submit structure recommendations that must be approved by the Department.
- The Department will not grant approval of the Preliminary Plans until both the design criteria and the structure recommendations have been approved.
- A resurfacing grade and coordinate geometry horizontal alignment shall be developed for the mainline, as well as all ramps, loops and -Y- Lines (excluding US 29 / US 70 / US 220). The limits of all ramp, loop and -Y- Line construction shall be of sufficient length to tie to the existing pavement and meet NCDOT guidelines and standards.
- Widening of US 29 / US 70 / US 220 is not required as part of this project.
- The proposed grade on the bridge shall provide a minimum 17-foot vertical clearance over US 29 / US 70 / US 220.
- The Design-Build Team shall acquire all right of way and easements for this project. Appropriate design measures should be taken to avoid acquisition of railroad right of way. Any design or construction methods incorporated by the Design-Build Team that requires right of way and/or easements shall be the responsibility of the Design-Build Team. All existing and proposed right of ways, temporary easements and permanent easements shall be shown on the construction plans. Reference the Right of Way scope of work.
- As part of the city of Greensboro's streetscape project, the following items shall be incorporated into the final design and construction of the project. These items shall be provided as outlined in the plans and provisions provided. NCDOT will have the authority to approve this work.
  - a. The US 29 ramp in the southeast quadrant of the Market Street interchange shall be removed and graded to drain. The right of way will be abandoned.

Sidewalk, curb & gutter, pavement markings and drainage structures shall be placed along US 29/70/220 in the vicinity of the removed ramp.

- b. Gillespie St. will be realigned to form a signalized intersection with the realigned US 29/70/220 ramp in the northeastern quadrant of the interchange. Huffman Street will also be realigned to provide a safer intersection with the realigned US 29/70/220 ramp.
  - c. Access to Marshall Street from Market Street will be severed. Marshall Street shall be terminated with a "T" type turn-around.
  - d. Brick pavers shall be installed adjacent to sidewalks and within raised medians and channelized islands as shown in the Phase III Landscape/Hardscape plans and details provided by the NCDOT. The existing concrete bus stop platform should be removed and replaced with all elements of the "Bus Stop Paver Treatment" detail. Brick pavers will not be allowed on the bridge. Brick stamped asphalt shall be constructed at all crosswalks.
  - e. Ornamental signal mast arms and pedestrian poles will be installed on this project (Reference the Traffic Management and Signals Systems Scope of Work). The Design Build Team is not required to purchase, locate or install streetlights. The city of Greensboro and Duke Power will be responsible for installing the underground conduit and the streetlight poles. The Design Build Team will be responsible for coordinating construction activities with the city of Greensboro and Duke Power.
  - f. Landscaping shall be provided within the proposed work limits as shown in the Phase III Landscape/Hardscape plans and details provided.
  - g. The Design-Build Team shall design, provide and install a complete irrigation system for all lawn and planted areas within the right of way. Modifications to the existing system will be allowed within the project limits.
- The Design-Build Team shall coordinate all design and construction activities with the Division 7 Office, the Construction Unit and the Project Services Unit.

## II. GENERAL :

The design shall be in accordance with the 2001 *AASHTO A Policy on Geometric Design of Highways and Streets*, January 2002 *NCDOT Roadway Standard Drawings*, NCDOT 2002 *Roadway Design Manual*, *Roadway Design Policy and Procedure Manual*, NCDOT *Guidelines for Roadway Design Activities*, January 2002 *North Carolina Standard Specifications for Roads and Structures*, and the *AASHTO Roadside Design Guide* 2002.

If the NCDOT *Roadway Design Manual*, the 2001 *AASHTO A Policy on Geometric Design of Highways and Streets*, the January 2002 *NCDOT Roadway Standard Drawings* and / or any other guidelines, standards or policies have desirable and / or minimum values, the Design-Build Team shall use the desirable values. Similarly, in case of conflicting

**PAVEMENT DESIGN SCOPE OF WORK**

Rev. 12/20/04

A resurfacing grade shall be developed for the mainline, ramps, loops, and -Y-lines (except US 29 / US 70 / US 220).

The pavement designs for the project are given below:

Line	Design
<ul style="list-style-type: none"> <li>-L-line (East Market Street)</li> <li>Gillespie Street</li> <li>Huffman Street</li> <li>Ramp A (Booker Street)</li> <li>Ramp D</li> </ul>	3.0" S9.5B 4.0" I19.0B 4.5" B25.0B Overlay the existing pavement with a minimum of 3.0" S9.5B.
<ul style="list-style-type: none"> <li>Marshall Street Turnaround</li> </ul>	1.5" S9.5B 4.0" B25.0B
<ul style="list-style-type: none"> <li>US 29/70/220 (Narrow Widening)*</li> </ul>	3.0" S9.5C 4.0" I19.0C 11.0" B25.0C

\* Narrow widening shall be used in areas where construction activities disrupt the existing pavement along US 29 / US 70 / US 220. These areas may include but are not limited to, construction or removal of interior bents or the installation of curb and gutter.

The Design Build Team is required to mill and resurface the entire width of roadway in the direction of travel (northbound or southbound) where narrow widening, removal or damage occurs to the existing pavement or markings. The limits of this work shall be continuous to include all areas of disruption within the construction limits along US 29 / US 70 / US 220. Milling is required to prevent any elevation difference between the new pavement and the existing curb and gutter. The Design Build Team shall overlay the existing pavement with a minimum of 1.5" S9.5C.

Shoulder drains are not required.

The Design/Build team will be responsible for the design of all temporary pavements and for evaluation of existing shoulders regarding their suitability for carrying traffic during construction, if necessary. Temporary pavements will be designed in accordance with the most recent version of the North Carolina DOT Pavement Design Procedure. Temporary pavement designs are to be submitted for review and comment using the contract submittal process. The expected duration for traffic on temporary pavement must be included as part of the submittal.

**SIGNING SCOPE OF WORK**

Rev. 12-22-04

**General:** The Signing plans will be prepared by the Design Build (DB) team in accordance with the latest edition of the 2003 *Manual on Uniform Traffic Control Devices (MUTCD)*, the 1988 NC *Supplement to the MUTCD*, NCDOT *Standard Specifications for Roads and Structures* (January 2002), the NCDOT *Roadway Standard Drawings* (January 2002) for the design and development of signing plans, the latest Standard Specifications for *Structural Supports for Highway signs, Luminaires, and Traffic Signals* published by AASHTO, and the contract requirements for Signing plan design and preparation including specific submittal requirements for department review (attached). All electrical installations are the responsibility of the Design Build Team and must meet NEC, State, and local codes. All electrical/electronics equipment and devices must be UL approved and listed.

**Specific Signing Items:**

**Signs Furnished by Design Build Team:** The signs will be furnished by DB team according to the specifications provided by the department.

**Sign Design:** The DB team will be responsible for all type A, B, and D sign designs for ground mounted signs. The DB team will be responsible for determining, sizing, and locating all type E (warning and regulatory signs) and type F signs (route marker assemblies). There will be no overhead sign assemblies required for this project. The DB team is not responsible for designing and locating any new proposed LOGO sign, however; the DB team will be responsible for relocating existing LOGO signs due to widening or realignment.

**Sign Locations & Limits:** The DB team will be responsible for determining the station locations for all signs on B-3851. The DB team also must coordinate with known existing and future projects to avoid sign placement in locations where their usefulness will be short-lived. The signing limits will include replacing all signs located on US 29/70/220 pertaining to the interchange with Market Street (SR 3163). This will include replacing and/or adding signs on the existing US 29/70/220 off and on ramps as well as on the Market Street intersection with US 29/70/220.

**Ground Mounted Support Designs:** NCDOT will provide the software for support design. DB team is responsible for all design, fabrication, and installation. Instructions for loading support design software will be available via CD.

**Guardrail or Other Protection for Signs:** The DB team will be responsible for determining and designing any protection for sign installations and coordinating this design work with the department for approval.

**Signing Typical Sheets:** Sheets for use in summarizing pay items, standard specifications, and quantities and sheets for compiling type E signs and type F signs will be provided by the department on a compact disk. Typical sheets showing NCDOT signing standards for interchanges will also be provided for design reference.

**Removal and Disposal of Existing Signs:** The DB team will be responsible for determination of existing signs that will no longer be needed upon completion of the project, such as on –Y– lines and project tie-ins. The DB team will be responsible for removal and disposal of these signs and supports. These signs will need to be shown and noted on the plan view sheets of the signing plans designed by DB team.

**Final Signing Design Plans:** Final Signing Plans must be approved by the department.

**Signing Construction Revisions:** Any construction revision must be submitted to the department for approval.



## **Requirements For The Preparation Of Signing Plans**

### **I. Signing Information Available Electronically Per Request.**

Electronic information prepared by Signing Section is available per request:

Non-proprietary computer software for support and sign design is included in this information.

### **II. Description of Work Required of Design Build (DB) Team**

An understanding of the signing sections of the *MUTCD*, 1998 NC *Supplement to the MUTCD*, 2002 NCDOT *Standard Specifications for Roads and Structures*, and 2002 NCDOT *Roadway Standard Drawings* are required for design and development of signing plans.

**A. Signing Plan Preparation:** Prepare signing plans (SP) on Microstation J and include the following information and supporting documentation:

**1. General Requirements:** Accurate 1" = 100', (for metric projects 1:1000), CADD drawings of roadway plans, hereafter referred to as signing plan view sheets, which show pavement, paved shoulders, bridges, culverts, guardrail, drainage pipe, survey lines, right-of-way lines, stationing as labeled on roadway plans, equalities, north orientation for each sheet, signalized intersections labeled, beginning Signing project station, and ending Signing project station. Proposed traffic flow arrows shall be shown on these sheets at the beginning and end of each sheet and following any lane transitions.

**2. Sign Locations:** Locations of re-erected existing signs, existing signs remaining in place, proposed signs, and future signs by station on L-lines. No stations are required for signs erected on intersections and Y-lines. When stationing is not available, such as outside of the project limits, signs are required to be dimensioned from a fixed point or sign spacing shall otherwise be indicated on plans. Graphic representation of all existing, proposed, and future signs on the L-lines, Y-lines, and ramps are to be positioned on the plans as traffic would see them.

**3. Sign Design:** Signs will be designed to accommodate future messages when necessary. Determination of type E and F signs will be made by the DB team and included in signing plans.

**4. Ground Mounted Support Design for Type A and B Signs:** Determination of S dimensions from X-sections (or from field survey when X-sections are not available) is required for type A and B ground mounted signs. Design of supports is required using these S dimensions. Support chart including support sizes, lengths, and weights, for all type A and B ground-mounted signs is required. (Spreadsheets are available electronically through FTP.)

**5. Type D, E and F signs:** Charts including sign number, sign size, and number of U channel posts for all Type D, E and F signs is required.

**6. Special Provisions:** Project Special Provisions for special signing items are required to be written by the DB team and sealed by a professional engineer of the DB team.

**7. Coordinate With Other Traffic Engineering Plan Requirements:** The DB team is required to coordinate with the Traffic Control and Pavement Marking & Delineation plans when locating and designing sign assemblies, lane drop signing, and “All Traffic Exit” signing and to ensure that they match the requirements of the signing plans. The DB team is required to label signalized locations on the signing plans.

**B. Signing Plan Submittals:** The DB team shall make submittals for review by the Traffic Engineering and Safety Systems Branch Signing Section at the following milestones:

Note: 1) The Signing Section may combine or eliminate milestone submittals depending on project specifics.

**1. Initial SP review:** 2 (1/2 size) sets of Signing Plans and 2 copies of roll out 1/2 size plan view consisting of the signing plan view sheets with all existing, proposed, future signs (including messages) located in the format of the final product. All necessary sign relocations are also required to be included in this submittal. The approval of this review shall complete 50% of the SP work.

Submittal of 1 (1/2 size) corrected set of initial SP is required for review by field personnel and FHWA.

**2. Interim SP review:** 2 (1/2 size) sets of plans and 2 copies of roll out 1/2 size plan view with plans consisting of the corrected signing plan view sheets with all signs located, completed type E and F sign sheets, ground-mounted sign support chart with support designs and design calculation information (S-Dimension Worksheets), structure line drawings, and lighting design sheets completed in the format of the final product. The approval of this submittal shall complete 90% of the SP work.

Submittal of 1 (1/2 size) corrected set of interim SP is required for approval by Signing Engineer.

**3. Final SP review:** 2 (1/2 size) sets of plans and 2 copies of roll out 1/2 size plan view sheets with plans consisting of the summary of quantities sheet with list of applicable Roadway Standard Drawings, quantities estimate and computations, draft of Project Special Provisions (other than those prepared and sealed by NCDOT), and all corrected signing sheets and supporting documentation required in the 50% submittal. The approval of this submittal shall complete 100% of the SP work.

**4. Final Plan submittal:** Original sealed set of approved signing plans and 5 (1/2 size) copies, original quantities estimate and computations, sign designs in binder including cover sheet listing signs (form for cover sheet available electronically through FTP), original of Project Special Provisions sealed by Professional Engineer of DB team (see II.A.6. for when required), design files on CD that have name of sealer, registration number, and date of sealing inserted where seal, signature, and date are located on original plans, and all other supporting documentation shall be submitted for final acceptance by the Signing Section of the Traffic Engineering and Safety Systems Branch. The approval of this submittal shall complete 100% of the SP work.

C. Final plans shall meet the approval of the Department. Said approval shall not relieve the DB team of liability or the responsibility to correct any error in their plans or computations after the 100% Final Plan Submittal. The DB team will be required to make any such corrections without additional compensation.

### III. Work Standards

A. The plans, sign designs, sign support designs, design and quantity calculations, project special provisions, any other supporting documentation, and design files are required on CDs and shall be submitted to the Department upon completion of the work and become the property of the Department. Cadd work units that are compatible with NCDOT are required such that when plans are printed by NCDOT, plans will be identical to the hard copy of what was submitted by DB team.

B. All plan sheets shall be 34" x 22" in finished dimensions. The Department may furnish the DB team with sheets to incorporate into their plans prior to final plan reproductions.

C. All plan sheets shall conform to the requirements of the signing section. A 4 ½" x 4 ½" area for full size sheets, directly below the project information block in the upper right corner of all sheets, shall be left blank and unobstructed.

#### D. Reproduction

1. The DB team shall be responsible for providing the following:

At 100%: 1 full size original set of plans sealed by Professional Engineer

The DB team shall be responsible for reproduction of the signing plans as necessary to provide the following bond prints:

- At 50%: 2 (1/2 size) sets interim SP review prints; 2 copies of roll out ½ size plan view;  
1 (1/2 size) set of corrected interim SP review prints;
- At 90%: 2 (1/2 size) sets final SP review prints; 2 copies of roll out ½ size plan view;
- At 100%: 5 (1/2 size) copies of approved final SP sealed by Professional Engineer;  
1 roll out ½ size plan view.

E. Project Special Provisions - the North Carolina Department of Transportation *Standard Specifications for Roads and Structures, 2002\**, and the Standard Special Provisions issued by the Division of Highways shall apply for materials and construction on all work described above. The DB team shall prepare thorough and complete Project Special Provisions covering those items of material, work, and other conditions for the signing items of the project which are not covered at all, or not covered as desired in the Standard Specifications or Standard Special Provisions. These Project Special Provisions shall be submitted for review at the time prints of final plans are submitted for review. The 100% submittal of these Project Special Provisions shall be sealed by a Professional Engineer of the DB team.

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Attachments will only be allowed to the bottom of the bridge deck.

(C) For water and sewer force mains, only restrained joint ductile iron pipe will be allowed.

(D) A minimum of 18" of clearance to beams and/or girders shall be maintained if possible.

**III. Utility attachments will be allowed to the proposed structure, provided that all of the above conditions are satisfied and the Design Build Team provides documentation of adverse conditions to the NCDOT State Utility Agent.**

**Preparation for Communication Cables/Electrical Services for Lighting, Signing & ITS Devices**

- I. Prior to establishing the location for new meter poles, the Design Build Firm will coordinate with the local Power Distribution Company concerning accessibility of E/C Service and safety in maintenance of the meter.
- II. All service taps that require a parallel installation within the C/A will require plans for review and approval by the NCDOT prior to the installation.  
  
-Preferably, parallel service installations within a C/A should be buried and located as close to the R/W line as practical. However, due to unusual circumstances the NCDOT may approve aerial installations.
- III. The NCDOT will be responsible for any cost concerning service taps provided by the utility company.

**Preparation for Adjusting Existing Utilities due to Proposed Traffic Management Systems Fiber Optic Communication Cables**

- I. See Traffic Management Scoping Outline
- II. The NCDOT will be responsible for all cost in coordinating and adjustments of utilities for any proposed ITS Communication Cable.